UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/765,061 | 01/28/2004 | Alwin Lee | 32052-8295.US | 2327 |

25096        7590        04/01/2009
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| EXAMINER |
|---|
| RILEY, MARCUS T |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2625 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 04/01/2009 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1) ☒ Responsive to communication(s) filed on <u>09 March 2009</u>.
2a) ☐ This action is **FINAL**.     2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4) ☒ Claim(s) <u>1-33</u> is/are pending in the application.
    4a) Of the above claim(s) <u>1-4 and 8-24</u> is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>5-7 and 25-33</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

## Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on <u>28 January 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All   b)☐ Some *   c)☐ None of:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>06/14/2004; 07/26/2006</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1.      A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection.   Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114.  Applicant's submission filed on March 9, 2009 has been entered.

### *Response to Amendment*

2.      This office action is responsive to the applicant's remarks received on March 9, 2009.

**Claims 1-33** are pending. **Claims 1-4** and **8-24** have been cancelled.

### *Response to Arguments*

3.      Applicant's arguments with respect to amended **claim 5** and newly added **claims 25-33**

filed on March 9, 2009 have been fully considered but they are not persuasive.

### A:  Applicant's Remarks

    For Applicant's Remarks see *"Applicant Arguments/Remarks Made in an Amendment"*

filed March 9, 2009.

### A: Examiner's Response

Applicant argues that Koga '711, Kanemitsu '603 and Bearss '221 either alone or in combination fails to disclose and would not have rendered obvious, the combination of features recited in the independent claims. The gist of Applicant's arguments is that the cited references does not disclose or support a Section 103 rejection of claims 5-7 because the combined teachings of these references fail to disclose or suggest several features of these claim. Applicant argues that Koga and Kanemitsu do not teach or suggest the combination of "choosing a second background color from the first area" and "determining whether the first area includes the image portion or the text portion based at least in part on the second background color." Applicant also argues that Claim 5 is further patentable over Koga and Kanemitsu because one skilled in the art would not combine the teachings of these references to come up with the arrangement of claim 5. Furthermore, Applicant argues that the combined technique still does not teach or suggest identifying areas on the document that either includes images or text, as recited in claim 5.

Examiner understands the Applicant's arguments but respectfully disagrees. Koga '711, Kanemitsu '603 and Bearss '221 either alone or in combination discloses, teaches or suggest the Applicant's claimed invention. Koga '711 at column 4, lines 22-25 discloses *"choosing a second background color from the first area"* ("*...and second extraction means for extracting an image segment from the input color image using data of the image segment extracted by the first extraction means.*" column 4, lines 22-25). Koga '711 at column 4, lines 22-25 discloses *"determining whether the first area includes the image portion or the text portion based at least in part on the second background color."*(See Figure 1 wherein Fig. 1 shows the image input #5001 with Characters 1 & 2. "*...and second extraction **means for extracting an image segment from the input color image using data of the image segment** extracted by the first extraction means.*" column 4, lines 22-25 ); One skilled in the art would combine the teachings of these references to come up with

the arrangement of claim 5. The motivation for doing so would have been because this would

provide an image processing apparatus and method in which excellent processing is applied to a

color image in which image segments having different characteristics are mixed as referenced by

Koga '771 at column 3, lines 55-58. Furthermore, Koga '711 at column 4, lines 22-25 discloses

identifying areas on the document that either includes images or text, as recited in claim 5. (See

Figure 1 wherein Fig. 1 shows the image input #5001 with Characters 1 & 2. "...*and second extraction **means for extracting an***

***image segment from the input color image using data of the image segment*** *extracted by the first extraction means.*" column 4,

lines 22-25 ).

As a result, claim 5 is not patentable over Koga '711, Kanemitsu '603 and Bearss '221

either alone or in combination because they disclose, teach or suggests the Applicant's claimed

invention.

Claims 6 and 7 depend from independent claim 5. Thus, claims 6 and 7 are also not

patentable based at least on their dependency on rejected claim 5. Accordingly, Applicant's

application is not in condition for allowance.

## *Claim Objections*

### *(The previous claim objections are withdrawn in light of the applicant's amendments.)*

## *Claim Rejections - 35 USC § 103*

4.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the
> differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability
> shall not be negatived by the manner in which the invention was made.

5.      **Claims 5, 6, 30 & 33** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Koga et al. (US 6,556,711 B2, hereinafter Koga '711) in combination with Kanemitsu et al. (US

4,996,603, hereinafter Kanemitsu '603).

**Regarding claim 5;** Koga '711 discloses choosing a first background color from the

master copy (See Figures 1, 6 & 7. Fig. 1 is a diagram showing a procedure for segmenting image segments in the present

invention. Fig. 6 is a diagram showing the detailed procedure of an image-segment extraction step depicted in Fig. 1. Figure 7

Fig. 7 is a diagram showing the detailed procedure of a background image segmentation step depicted in FIG. 6 *"FIG. 7 is a*

*diagram showing the detailed procedure of the **background image segmentation step 22. A background color extraction step***

***211 analyzes the colors of the inputted intermediate image segment and judges whether the inputted intermediate image***

***segment contains a color indicative of a background image segment.*** *"* column 11, lines 50-55);

wherein the master copy includes an image portion, a text portion and an empty portion

containing neither an image nor text (See Figure 7 wherein Fig. 7 shows an empty portion where no background

image segment found *"FIG. 7 is a block diagram showing the construction of an image segmentation unit for **discriminating***

***between a character/line-drawing image segment and a pseudo-halftone image segment;***" column5, lines 14 -17);

condensing the master copy based at least in part on the first background color by

omitting the empty portion to create a condensed copy of the master copy, the condensed copy

containing only the image portion and the text portion (See Figure 7 where the "No Background Image

Segment" is omitted. See column 33, lines 57-59 wherein Koga teaches condensing the master copy based at least in part on the

first background color *"Here the **reduced image is obtained by reducing the size of the input image** in the horizontal and*

*vertical directions...*" column 33, lines 57-59);

transversely and vertically dividing the entirely of the condensed copy into a plurality of

first areas (*"The **input image is divided into blocks 3101 of two pixels vertically and two pixels horizontally (for a total of***

***four pixels) shown in FIG. 45**, and one pixel in each block (say a pixel 3102 in the upper left-hand corner) is made one*

*corresponding pixel 3103 of the reduced image, **whereby an image reduced by ½ vertically and horizontally can be created.**"*

column 34, lines 5-11);

for each of the first area choosing a second background color from the first area (*"...and second extraction means for extracting an image segment from the input color image using data of the image segment extracted by the first extraction means."* column 4, lines 22-25);

determining where the first area includes the image portion or the text portion based at least in part on the second background color (See Figure 1 wherein Fig. 1 shows the image input #5001 with Characters 1 & 2. *"...and second extraction means for extracting an image segment from the input color image using data of the image segment extracted by the first extraction means."* column 4, lines 22-25 );

if the first area includes the image portion, marking the first area as an image area (*"In the second embodiment, however, a binary image compressed by a compression method stored in the compressed-data header is registered as "image-segment shape"..."* column 22 lines 39-42);

if the first area includes the text portion, marking the first area as a text area (*"FIGS. 30A and 30B are diagrams showing the form of image-segment data contained in compressed image-segment data. Image-segment data whose form is either of two types is held in dependence upon the image-segment component. More specifically, in case of a "limited-color character or line-drawing image segment", a "limited-color pseudo-halftone image segment", a "limited-value character or line-drawing image segment" or a "limited-value pseudo-halftone image segment", image-segment data of the form shown in FIG. 30A is held. ..."* column 22, lines 26-35);

if the first area cannot be identified as an image area or a text area, then replacing the first background color with the second background color (*"Under the control of an image-segment discrimination control step 31, the foregoing steps are repeated until there are no longer any undiscriminated image segments. As a result, image-segment components of each image segment are discriminated"* column 14, lines 56-60);

condensing the first individual area based at least in part on the second background color (*"Here the reduced image is obtained by reducing the size of the input image in the horizontal and vertical directions..."* column 33, lines 57-59);

transversely and vertically dividing the first area into a plurality of second individual areas (*"...an image reduced by ½ vertically and horizontally can be created."* column 34, lines 9-11) See also (*"The input image is divided into blocks 3101 of two pixels vertically and two pixels horizontally (for a total of four pixels) shown in FIG.*

*45, and one pixel in each block (say a pixel 3102 in the upper left-hand corner) is made one corresponding pixel 3103 of the reduced image, **whereby an image reduced by ½ vertically and horizontally can be created**.*" column 34, lines 5-11);

and for each of the second areas determining whether the second area includes the image portion or the text portion based at least in part on the second background color ("*...and second extraction **means for extracting an image segment from the input color image using data of the image segment** extracted by the first extraction means.*" column 4, lines 22-25 );

if the second area includes an image portion, marking the second individual area as an image area ("*In the second embodiment, however, a binary image compressed by a compression method stored in the compressed-data header **is registered as "image-segment shape"**.*" column 22, lines 39-42);

and if the second area includes a text portion, marking the second individual area as a text area ("***FIGS. 30A and 30B** are diagrams showing the form of image-segment data contained in compressed image-segment data. Image-segment data whose form is either of two types is held in dependence upon the image-segment component. More specifically, **in case of a "limited-color character** or line-drawing image segment", a "limited-color pseudo-halftone image segment", **a "limited-value character or line-drawing image segment"** or a "limited-value pseudo-halftone image segment", image-segment data of the form shown in FIG. 30A is held. ...*" column 22, lines 26-35);

Koga '711 does not expressly disclose processing images with halftone processing, processing text with line art processing and outputting the processed images and processed text as a whole.

Kanemitsu '603 discloses processing image areas with halftone processing ("***When the circuit 3 detects a photo portion, the half-tone signal HTS is selected.*** " column 4, lines 38-39);

processing text areas with line art processing ("*In the selection circuit 4, when the circuit 3 detects a character portion, the fixed slice signal FSS is selected.*" column 6, lines 36 and 37);

outputting the processed images and processed text as a whole ("*Ref FIG. 1 is a schematic block diagram of a general image processing system. In FIG. 1, reference number 100 denotes an original image of a document to be scanned, 101 an image scanner, 102 a personal computer with a display (CRT), 103 a laser printer and 104 an image reproduced by the printer. The original image includes characters, ruled lines, and photos. They are scanned by the image*

*scanner 101 and converted to a multi-level signal and then converted to a binary signal having values of "0" or "1". The binary signal is input into the personal computer 102 and printed by the laser printer 103 so that the original image can be reproduced."* column 3, lines 1-13).

Koga '711 and Kanemitsu '603 are combinable because they are from same field of endeavor of an image processing apparatus (*"Image Processing System"* Kanemitsu '603, see eg. Title).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the image processing apparatus as taught by Koga '711 by processing image areas with halftone processing, processing text areas with line art processing and outputting the processed images and processed text as a whole as taught by Kanemitsu '603. The motivation for doing so would have been because this would provide an image processing apparatus and method in which excellent processing is applied to a color image in which image segments having different characteristics are mixed (*"An object of the present invention is to... provide an image processing apparatus and method in which excellent processing is applied to a color image in which image segments having different characteristics are mixed."* Koga '711 at column 3, lines 55-58). Therefore, it would have been obvious to combine Koga '711 with Kanemitsu '603 to obtain the invention as specified in claim 5.

**Regarding claim 6;** Koga '711 as modified does not expressly disclose where said halftone processing comprises a dithering process.

Kanemitsu '603 discloses the halftone processing is a dithering process (*"...the multi-level signal of the photo portions of the original image is binary-coded by* **the half-tone processing method based on dithering for binary coding the multi-level signal based on a predetermined dither pattern.**" column 3, lines 19-23).

Koga '711 and Kanemitsu '603 are combinable because they are from same field of endeavor of an image processing apparatus (*"Image Processing System"* Kanemitsu '603, see eg. Title).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the image processing apparatus as taught by Koga '711 by making the halftone process comprise of a dithering process as taught by Kanemitsu '603. The motivation for doing so would have been because this would provide an image processing apparatus and method in which excellent processing is applied to a color image in which image segments having different characteristics are mixed (*"An object of the present invention is to… provide an image processing apparatus and method in which excellent processing is applied to a color image in which image segments having different characteristics are mixed."* Koga '711 at column 3, lines 55-58). Therefore, it would have been obvious to combine Koga '711 and Kanemitsu '603 to obtain the invention as specified in claim 5.

**Regarding claim 30;** Kanemitsu '603 discloses processing image area with halftone processing (*"**When the circuit 3 detects a photo portion, the half-tone signal HTS is selected.**"* column 4, lines 38-39);

and processing text area with line art processing (*"In the selection circuit 4, when the circuit 3 detects a **character portion, the fixed slice signal FSS is selected.**"* column 6, lines 36 and 37).

**Regarding claim 33;** Kanemitsu '603 discloses processing image area with halftone processing (*"**When the circuit 3 detects a photo portion, the half-tone signal HTS is selected.**"* column 4, lines 38-39);

and processing text area with line art processing (*"In the selection circuit 4, when the circuit 3 detects a **character portion, the fixed slice signal FSS is selected.**"* column 6, lines 36 and 37).

6.      **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Koga '711 and Kanemitsu '603 as applied to claim 1 above, and further in view of Bearss et al. (US 5,987,221 hereinafter Bearss '221).

**Regarding claim 7;** Bearss '221 discloses where the dithering process comprises a sampling mode dithering (*"FIG. 2 is a **block diagram of a threshold dither matrix** embodying orphan pixels according to the present invention."* column 4, lines 23-24).See also (*"As will be understood by those of ordinary skill in the art, the placement of orphan pixels in FIG. 2 is merely exemplary, and **variations may also serve for a 3.times.3 sampling/detection window.** Moreover, the orphan placement may also vary given a different size window, such as for a 5.times.5 area window, a 1.times.3 area window, or **for a multiple sampling/detection window configuration.** "* column 6, lines 42-47).

## *Claim Rejections - 35 USC § 102*

7.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8.      **Claim 25-29, 31 & 32** are rejected under 35 U.S.C. 102(b) as being anticipated by Koga '711.

**Regarding claim 25;** Koga '711 discloses a method for identifying image areas and text areas in a document, the method comprising (*"...the foregoing object is attained by providing an **image processing method** comprising an **input step of inputting a color image, an extraction step of extracting image segments,** which have characteristics **different from a background image segment of the inputted color image,** from the color image, and a*

*discrimination step of* **discriminating the characteristics of each image segment extracted at the extraction step.** *"* column 3,

lines 60-67):

> choosing a document background color based on the whole document(*"FIG. 7 is a diagram*
>
> *showing the detailed procedure of the* **background image segmentation step 22. A background color extraction step 211**
>
> **analyzes the colors of the inputted intermediate image segment and judges whether the inputted intermediate image segment**
>
> **contains a color indicative of a background image segment.** *"* column 11, lines 50-55);
>
> creating a condensed document from the document by omitting areas that contain neither
>
> image nor text based at least in part on the chosen document background color(See Figure 7 where the
>
> "No Background Image Segment" is omitted. See column 33, lines 57-59 wherein Koga teaches condensing the master copy
>
> based at least in part on the first background color *"Here the* **reduced image is obtained by reducing the size of the input image**
>
> *in the horizontal and vertical directions...*" column 33, lines 57-59);
>
> dividing the condensed document into a plurality of areas (*"The* **input image is divided into blocks**
>
> **3101 of two pixels vertically and two pixels horizontally (for a total of four pixels) shown in FIG. 45,** *and one pixel in each*
>
> *block (say a pixel 3102 in the upper left-hand corner) is made one corresponding pixel 3103 of the reduced image,* **whereby an**
>
> **image reduced by ½ vertically and horizontally can be created.**" column 34, lines 5-11);
>
> for each of the divided areas, choosing an area background color based on the individual
>
> areas ("**...and second extraction means for extracting an image segment from the input color image using data of the image**
>
> **segment extracted by the first extraction means.**" column 4, lines 22-25);
>
> and identifying the individual areas as containing image or text based at least in part on
>
> the chosen area background color ("*...and second extraction* **means for extracting an image segment from the input**
>
> **color image using data of the image segment** *extracted by the first extraction means.*" column 4, lines 22-25 ); See also ("*In*
>
> *the second embodiment, however, a binary image compressed by a compression method stored in the compressed-data* **header is**
>
> **registered as "image-segment shape"***...*" column 22 lines 39-42);

**Regarding claim 26;** Koga '711 discloses wherein dividing the condensed document

includes dividing the condensed document transeversely and vertically into a plurality of areas,

and the method further includes("*The **input image is divided into blocks 3101 of two pixels vertically and two pixels***

***horizontally (for a total of four pixels) shown in FIG. 45**, and one pixel in each block (say a pixel 3102 in the upper left-hand*

*corner) is made one corresponding pixel 3103 of the reduced image, **whereby an image reduced by ½ vertically and horizontally***

***can be created**.*" column 34, lines 5-11):

if one of the areas cannot be identified as containing image or text, omitting sub-areas in

the area that contain neither image nor text based at least in part on the chosen area background

color to create a condensed area (See Figure 7 where the "No Background Image Segment" is omitted. See column 33,

lines 57-59 wherein Koga teaches condensing the master copy based at least in part on the first background color *"Here the*

***reduced image is obtained by reducing the size of the input image*** *in the horizontal and vertical directions…*" column 33, lines

57-59);

dividing the condensed area into a plurality of sub-areas ("*The **input image is divided into blocks***

***3101 of two pixels vertically and two pixels horizontally (for a total of four pixels) shown in FIG. 45**, and one pixel in each*

*block (say a pixel 3102 in the upper left-hand corner) is made one corresponding pixel 3103 of the reduced image, **whereby an***

***image reduced by ½ vertically and horizontally can be created**.*" column 34, lines 5-11);

and for each of the divided sub-areas, choosing a sub-area background color based on the

individual sub-areas ("***…and second extraction means for extracting an image segment from the input color image***

***using data of the image segment extracted by the first extraction means**.*" column 4, lines 22-25);

and identifying the individual sub-areas as containing image or text based at least in part

on the chosen sub-area background color ("*…and second extraction **means for extracting an image segment from***

***the input color image using data of the image segment*** *extracted by the first extraction means.*" column 4, lines 22-25 ); See

also ("*In the second embodiment, however, a binary image compressed by a compression method stored in the compressed-data*

***header is registered as "image-segment shape"***…" column 22 lines 39-42).

**Regarding claim 27;** Koga '711 discloses wherein identifying the individual areas as

containing image or text includes identifying the individual areas as containing image or text

based on bit depth distribution, the identified image areas containing an image, the area background color, and the document background color, the identified text areas containing text, the area background color, and the document background color (See Figure 1 wherein #'s 5002- 5004 shows image and the area background color, #5001 shows the document background color, #5002 shows the area background color, #'s 5003 & 5004 characters 1 & 2 shows the identified text areas containing text in #5001. "...*the foregoing object is attained by providing an* **image processing method** *comprising an* **input step of inputting a color image, an extraction step of extracting image segments**, *which have characteristics* **different from a background image segment of the inputted color image,** *from the color image, and a discrimination step of* **discriminating the characteristics of each image segment extracted at the extraction step.**" column 3, lines 60-67).

**Regarding claim 28;** Koga '711 discloses wherein choosing an area background color includes choosing an area background color that is different than the document background color (See Figure 1 wherein #5004 is the same as character 2 in #5001. Fig. 1 shows area background color that is different than the document background color. Character 2 in #5004 is different than Character 1 in #5001.).

**Regarding claim 29;** Koga '711 discloses wherein choosing an area background color includes choosing an area background color that is the same as the document background color (See Figure 1 wherein Fig. 1 shows an area background color that is the same as the document background color. Character 2 in #5004 is the same as Character 2 in #5001. ).

**Regarding claim 31;** Koga '711 discloses a method for identifying an image area and a text area in an original document, the method comprising ("...*the foregoing object is attained by providing an* **image processing method** *comprising an* **input step of inputting a color image, an extraction step of extracting image segments**, *which have characteristics* **different from a background image segment of the inputted color image,** *from the color image, and a discrimination step of* **discriminating the characteristics of each image segment extracted at the extraction step.**" column 3, lines 60-67):

choosing a document background color based on the original document (*"FIG. 7 is a diagram showing the detailed procedure of the **background image segmentation step 22. A background color extraction step 211 analyzes the colors of the inputted intermediate image segment and judges whether the inputted intermediate image segment contains a color indicative of a background image segment.**"* column 11, lines 50-55);

creating a condensed document from the original document by omitting areas that contain neither image nor text based at least in part on the chosen document background color (See Figure 7 where the "No Background Image Segment" is omitted. See column 33, lines 57-59 wherein Koga teaches condensing the master copy based at least in part on the first background color *"Here the **reduced image is obtained by reducing the size of the input image** in the horizontal and vertical directions..."* column 33, lines 57-59);

dividing the condensed document into a first area and a second area (*"The **input image is divided into blocks 3101 of two pixels vertically and two pixels horizontally (for a total of four pixels) shown in FIG. 45**, and one pixel in each block (say a pixel 3102 in the upper left-hand corner) is made one corresponding pixel 3103 of the reduced image, **whereby an image reduced by ½ vertically and horizontally can be created**."* column 34, lines 5-11);

detecting a first area background color of the first area (*"FIG. 7 is a diagram showing the detailed procedure of the **background image segmentation step 22. A background color extraction step 211 analyzes the colors of the inputted intermediate image segment and judges whether the inputted intermediate image segment contains a color indicative of a background image segment.**"* column 11, lines 50-55);

identifying the first area as the image area based at least in part on the detected first area background color, the first area containing at least an image and the first area background color (*" In FIG. 36, a background color extraction step 221 analyzes the colors of the inputted intermediate image segment and **extracts the color of the background image segment.**"* column 28, lines 11-14);

detecting a second area background color of the second area (*"...and second extraction **means for extracting an image segment from the input color image using data of the image segment** extracted by the first extraction means."* column 4, lines 22-25 );

and identifying the second area as the text area based at least in part on the chosen second area background color, the second area containing at least text and the second area background

color ("...*and second extraction* **means for extracting an image segment from the input color image using data of the image segment** *extracted by the first extraction means.*" column 4, lines 22-25 ); See also ("*In the second embodiment, however, a binary image compressed by a compression method stored in the compressed-data* **header is registered as "image-segment shape"...**" column 22 lines 39-42).

**Regarding claim 32;** Koga '711 discloses wherein dividing the condensed document includes dividing the condensed document transversely or vertically into the first area and the second area ("*The* **input image is divided into blocks 3101 of two pixels vertically and two pixels horizontally (for a total of four pixels) shown in FIG. 45,** *and one pixel in each block (say a pixel 3102 in the upper left-hand corner) is made one corresponding pixel 3103 of the reduced image,* **whereby an image reduced by ½ vertically and horizontally can be created.**" column 34, lines 5-11).

## *Examiner Notes*

9.    The Examiner cites particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully considers the references in its entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or as disclosed by the Examiner.

## *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARCUS T. RILEY whose telephone number is (571)270-1581. The examiner can normally be reached on Monday - Friday, 7:30-5:00, est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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